10/579286

SEQUENCE LISTING

IAP20 Rec'd PETIPUG-15 MAY 2006

<110>	ANDRE	EEV,	et a	al.					¥	121	Me	كا لللاقط	WIII		TO MH
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att ta Ile Ty															387
tcc tte															435
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							acc Thr									1	.827
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Arg Val Gly Asp Glu Ile Arg Leu Cys Thr Asp Pro Gly Phe Val 50 55 60

Lys Trp Thr Phe Glu Ile Leu Asp Glu Thr Asn Glu Asn Lys Gln Asn 65 70 75 80

Glu Trp Ile Thr Glu Lys Ala Glu Ala Thr Asn Thr Gly Lys Tyr Thr 85 90 95 Cys Thr Asn Lys His Gly Leu Ser Asn Ser Ile Tyr Val Phe Val Arg 105 Asp Pro Ala Lys Leu Phe Leu Val Asp Arg Ser Leu Tyr Gly Lys Glu Asp Asn Asp Thr Leu Val Arg Cys Pro Leu Thr Asp Pro Glu Val Thr 135 Asn Tyr Ser Leu Lys Gly Cys Gln Gly Lys Pro Leu Pro Lys Asp Leu Arg Phe Ile Pro Asp Pro Lys Ala Gly Ile Met Ile Lys Ser Val Lys Arg Ala Tyr His Arg Leu Cys Leu His Cys Ser Val Asp Gln Glu Gly Lys Ser Val Leu Ser Glu Lys Phe Ile Leu Lys Val Arg Pro Ala Phe 195 200 205 Lys Ala Val Pro Val Val Ser Val Ser Lys Ala Ser Tyr Leu Leu Arg 210 220 Glu Gly Glu Glu Phe Thr Val Thr Cys Thr Ile Lys Asp Val Ser Ser 225 230 235 Ser Val Tyr Ser Thr Trp Lys Arg Glu Asn Ser Gln Thr Lys Leu Gln Glu Lys Tyr Asn Ser Trp His His Gly Asp Phe Asn Tyr Glu Arg Gln 265 Ala Thr Leu Thr Ile Ser Ser Ala Arg Val Asn Asp Ser Gly Val Phe Met Cys Tyr Ala Asn Asn Thr Phe Gly Ser Ala Asn Val Thr Thr Thr 295 Leu Glu Val Val Asp Lys Gly Phe Ile Asn Ile Phe Pro Met Ile Asn Thr Thr Val Phe Val Asn Asp Gly Glu Asn Val Asp Leu Ile Val Glu 325 330 Tyr Glu Ala Phe Pro Lys Pro Glu His Gln Gln Trp Ile Tyr Met Asn 350

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605

600

595

Tyr Gly Leu Ile Lys Ser Asp Ala Ala Met Thr Val Ala Val Lys Met 615 Leu Lys Pro Ser Ala His Leu Thr Glu Arg Glu Ala Leu Met Ser Glu Leu Lys Val Leu Ser Tyr Leu Gly Asn His Met Asn Ile Val Asn Leu 645 650 Leu Gly Ala Cys Thr Ile Gly Gly Pro Thr Leu Val Ile Thr Glu Tyr Cys Cys Tyr Gly Asp Leu Leu Asn Phe Leu Arg Arg Lys Arg Asp Ser 675 680 Phe Ile Cys Ser Lys Gln Glu Asp His Ala Glu Ala Ala Leu Tyr Lys 695 Asn Leu Leu His Ser Lys Glu Ser Ser Cys Ser Asp Ser Thr Asn Glu 705 710 715 720 Tyr Met Asp Met Lys Pro Gly Val Ser Tyr Val Val Pro Thr Lys Ala 725 730 Asp Lys Arg Arg Ser Val Arg Ile Gly Ser Tyr Ile Glu Arg Asp Val 740 Thr Pro Ala Ile Met Glu Asp Asp Glu Leu Ala Leu Asp Leu Glu Asp Leu Leu Ser Phe Ser Tyr Gln Val Ala Lys Gly Met Ala Phe Leu Ala 770 775 780 Ser Lys Asn Cys Ile His Arg Asp Leu Ala Ala Arg Asn Ile Leu Leu Thr His Gly Arg Ile Thr Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp 805 810 Ile Lys Asn Asp Ser Asn Tyr Val Val Lys Gly Asn Ala Arg Leu Pro 820 825 Val Lys Trp Met Ala Pro Glu Ser Ile Phe Asn Cys Val Tyr Thr Phe 835 840 845 Glu Ser Asp Val Trp Ser Tyr Gly Ile Phe Leu Trp Glu Leu Phe Ser

855

850

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Lys	Met	Ile	Lys	Glu 885	Gly	Phe	Arg	Met	Leu 890	Ser	Pro	Glu	His	Ala 895	Pro	
Ala	Glu	Met	Tyr 900	Asp	Ile	Met	Lys	Thr 905	Cys	Trp	Asp	Ala	Asp 910	Pro	Leu	
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					ggc Gly											340
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					ttt Phe											436
					cca Pro											484
					ccc Pro											532
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					cag Gln 190											628
					cgg Arg											676
					cac His											724
					gat Asp											772
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·	Ile	Lys 210	Ala	Ile	Pro	Val	Val 215	Ser	Val	Pro	Glu	Thr 220	Ser	His	Leu	Leu			
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÷		Arg	275					280					285						
•	Gly	Val	Phe	Met	Cys	Tyr	Ala	Asn	Asn	Thr	Phe	Gly	Ser	Ala	Asn	Val			

Thr Thr Leu Lys Val Val Glu Lys Gly Phe Ile Asn Ile Ser Pro 310 315 Val Lys Asn Thr Thr Val Phe Val Thr Asp Gly Glu Asn Val Asp Leu Val Val Glu Tyr Glu Ala Tyr Pro Lys Pro Glu His Gln Gln Trp Ile 340 345 Tyr Met Asn Arg Thr Ser Ala Asn Lys Gly Lys Asp Tyr Val Lys Ser Asp Asn Lys Ser Asn Ile Arg Tyr Val Asn Gln Leu Arg Leu Thr Arg 375 Leu Lys Gly Thr Glu Gly Gly Thr Tyr Thr Phe Leu Val Ser Asn Ser 390 395 Asp Ala Ser Ala Ser Val Thr Phe Asn Val Tyr Val Asn Thr Lys Pro 405 410 415 Glu Ile Leu Thr Tyr Asp Arg Leu Ile Asn Gly Met Leu Gln Cys Val 420 Ala Glu Gly Phe Pro Glu Pro Thr Ile Asp Trp Tyr Phe Cys Thr Gly 435 Ala Glu Gln Arg Cys Thr Thr Pro Val Ser Pro Val Asp Val Gln Val . Gln Asn Val Ser Val Ser Pro Phe Gly Lys Leu Val Val Gln Ser Ser 465 470 475 Ile Asp Ser Ser Val Phe Arg His Asn Gly Thr Val Glu Cys Lys Ala Ser Asn Asp Val Gly Lys Ser Ser Ala Phe Phe Asn Phe Ala Phe Lys Glu Gln Ile Gln Ala His Thr Leu Phe Thr Pro Leu Leu Ile Gly Phe Val Val Ala Ala Gly Ala Met Gly Ile Ile Val Met Val Leu Thr Tyr 530 540 Lys Tyr Leu Gln Lys Pro Met Tyr Glu Val Gln Trp Lys Val Val Glu 545 555

- Glu Ile Asn Gly Asn Asn Tyr Val Tyr Ile Asp Pro Thr Gln Leu Pro 565 570 Tyr Asp His Lys Trp Glu Phe Pro Arg Asn Arg Leu Ser Phe Gly Lys Thr Leu Gly Ala Gly Ala Phe Gly Lys Val Val Glu Ala Thr Ala Tyr 600 Gly Leu Ile Lys Ser Asp Ala Ala Met Thr Val Ala Val Lys Met Leu Lys Pro Ser Ala His Leu Thr Glu Arg Glu Ala Leu Met Ser Glu Leu Lys Val Leu Ser Tyr Leu Gly Asn His Met Asn Ile Val Asn Leu Leu Gly Ala Cys Thr Val Gly Gly Pro Thr Leu Val Ile Thr Glu Tyr Cys 660 665 Cys Tyr Gly Asp Leu Leu Asn Phe Leu Arg Arg Lys Arg Asp Ser Phe 675 680 685 Ile Phe Ser Lys Gln Glu Gln Ala Glu Ala Ala Leu Tyr Lys Asn 690 695 Leu Leu His Ser Thr Glu Pro Ser Cys Asp Ser Ser Asn Glu Tyr Met 705 Asp Met Lys Pro Gly Val Ser Tyr Val Val Pro Thr Lys Thr Asp Lys 725 730 Arg Arg Ser Ala Arg Ile Asp Ser Tyr Ile Glu Arg Asp Val Thr Pro Ala Ile Met Glu Asp Asp Glu Leu Ala Leu Asp Leu Asp Leu Leu Ser Phe Ser Tyr Gln Val Ala Lys Ala Met Ala Phe Leu Ala Ser Lys
- Gly Arg Ile Thr Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Arg 805 810 815

Asn Cys Ile His Arg Asp Leu Ala Ala Arg Asn Ile Leu Leu Thr His

790

795

Asn Asp Ser Asn Tyr Val Val Lys Gly Asn Ala Arg Leu Pro Val Lys 820 825 830	
Trp Met Ala Pro Glu Ser Ile Phe Ser Cys Val Tyr Thr Phe Glu Ser 835 840 845	
Asp Val Trp Ser Tyr Gly Ile Phe Leu Trp Glu Leu Phe Ser Leu Gly 850 855 860	
Ser Ser Pro Tyr Pro Gly Met Pro Val Asp Ser Lys Phe Tyr Lys Met 865 870 875 880	
Ile Lys Glu Gly Phe Arg Met Val Ser Pro Glu His Ala Pro Ala Glu 885 890 895	
Met Tyr Asp Val Met Lys Thr Cys Trp Asp Ala Asp Pro Leu Lys Arg 900 905 910	
Pro Thr Phe Lys Gln Val Val Gln Leu Ile Glu Lys Gln Ile Ser Asp 915 920 925	
Ser Thr Lys His Ile Tyr Ser Asn Leu Ala Asn Cys Asn Pro Asn Pro 930 935 940	
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cag aca ggg act tct cag cca tct gcg agt cca ggg gag ccg tct cca Gln Thr Gly Thr Ser Gln Pro Ser Ala Ser Pro Gly Glu Pro Ser Pro 25 30 35	152

cca tcc at Pro Ser Il							200
acc atc ac Thr Ile Ar 55	g Leu Thr						248
gag atc ct Glu Ile Le 70							296
gaa aaa go Glu Lys Al 85					-		344
agc ggc ct Ser Gly Le		Ser Ile				Val	392
ctt ttc ct Leu Phe Le							440
ctg gtc cg Leu Val Ar 13	g Cys Pro						488
att gag tg Ile Glu Cy 150							-536
aac ccc aa Asn Pro Ly 165							584
cgg ctg to Arg Leu Cy		Cys Ala				Arg	632
tct gac aa Ser Asp Ly							. 680
gtg gtg to Val Val Se 21	r Val Pro						728
ttt acg gt Phe Thr Va 230							776
atg tgg at Met Trp Il 245				Lys Ala			824
cgc aat ag Arg Asn Se		Gln Gly				Thr	872
ctg act at Leu Thr Il							920

					ttt Phe											968
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					999 330											1064
					gaa Glu											1112
					gag Glu											1160
					gaa Glu											1208
					ttt Phe											1256
					tat Tyr 410											1304
					ggc Gly											1352
					tgg Trp											1400
					cca Pro											1448
					ctg Leu											1496
					acg Thr 490											1544
					ttt Phe											1592
					acc Thr											1640
gtc Val	aca Thr	gcc Ala 535	ggc Gly	ttg Leu	atg Met	ggg Gly	atc Ile 540	att Ile	gtg Val	atg Met	gtt Val	ctt Leu 545	gcc Ala	tac Tyr	aaa Lys	1688

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					acg Thr											1976
_	_	_		_	ggt Gly 650			_			_					2024
					G1 y 999											2072
		_		_	aat Asn		_	_	_	_	_	-	_			2120
					gaa Glu											2168
					tct Ser											2216
					tcc Ser 730											2264
					gac Asp											2312
					gag Glu											2360
					gcc Ala											2408
					ttg Leu											2456

cgg atc aca aag att tgc gat ttc ggc cta gcc aga gac atc agg aat Arg Ile Thr Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Arg Asn 805 810 815 820	2504
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agc acc tct tcc aca cag cct ctc ctc gtg cat gag gac gcc tga Ser Thr Ser Ser Thr Gln Pro Leu Leu Val His Glu Asp Ala 965 970 975	2981
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Glu Ala Gly Asp Thr Ile Arg Leu Thr Cys Thr Asp Pro Ala Phe Val 50 55 60

Lys Trp Thr Phe Glu Ile Leu Asp Val Arg Ile Glu Asn Lys Gln Ser 65 70 75 80

Glu Trp Ile Arg Glu Lys Ala Glu Ala Thr His Thr Gly Lys Tyr Thr 85 90 95

Cys Val Ser Gly Ser Gly Leu Arg Ser Ser Ile Tyr Val Phe Val Arg 100 105 110

Asp Pro Ala Val Leu Phe Leu Val Gly Leu Pro Leu Phe Gly Lys Glu 115 120 125

Asp Asn Asp Ala Leu Val Arg Cys Pro Leu Thr Asp Pro Gln Val Ser 130 135 140

Asn Tyr Ser Leu Ile Glu Cys Asp Gly Lys Ser Leu Pro Thr Asp Leu 145 150 155 160

Lys Phe Val Pro Asn Pro Lys Ala Gly Ile Thr Ile Lys Asn Val Lys 165 170 175

Arg Ala Tyr His Arg Leu Cys Ile Arg Cys Ala Ala Gln Arg Glu Gly 180 185 190 Lys Trp Met Arg Ser Asp Lys Phe Thr Leu Lys Val Arg Ala Ala Ile 200 Lys Ala Ile Pro Val Val Ser Val Pro Glu Thr Ser His Leu Leu Lys Glu Gly Asp Thr Phe Thr Val Ile Cys Thr Ile Lys Asp Val Ser Thr 230 235 Ser Val Asp Ser Met Trp Ile Lys Leu Asn Pro Gln Pro Gln Ser Lys Ala Gln Val Lys Arg Asn Ser Trp His Gln Gly Asp Phe Asn Tyr Glu 260 265 Arg Gln Glu Thr Leu Thr Ile Ser Ser Ala Arg Val Asn Asp Ser Gly Val Phe Met Cys Tyr Ala Asn Asn Thr Phe Gly Ser Ala Asn Val Thr 290 295 300 Thr Thr Leu Lys Val Val Glu Lys Gly Phe Ile Asn Ile Phe Pro Val 305 310 Lys Asn Thr Thr Val Phe Val Thr Asp Gly Glu Asn Val Asp Leu Val 325 Val Glu Phe Glu Ala Tyr Pro Lys Pro Glu His Gln Gln Trp Ile Tyr 340 · Met Asn Arg Thr Pro Thr Asn Arg Gly Glu Asp Tyr Val Lys Ser Asp 355 360 Asn Gln Ser Asn Ile Arg Tyr Val Asn Glu Leu Arg Leu Thr Arg Leu Lys Gly Thr Glu Gly Gly Thr Tyr Thr Phe Leu Val Ser Asn Ser Asp 395 Val Ser Ala Ser Val Thr Phe Asp Val Tyr Val Asn Thr Lys Pro Glu 410 Ile Leu Thr Tyr Asp Arg Leu Met Asn Gly Arg Leu Gln Cys Val Ala 420 425 430 Ala Gly Phe Pro Glu Pro Thr Ile Asp Trp Tyr Phe Cys Thr Gly Ala 435 440

Glu	Gln 450	Arg	Cys	Thr	Val	Pro 455	Val	Pro	Pro	Val	Asp 460	Val	Gln	Ile	Gln
Asn 465	Ala	Ser	Val	Ser	Pro 470	Phe	Gly	Lys	Leu	Val 475	Val	Gln	Ser	Ser	Ile 480
Asp	Ser	Ser	Val	Phe 485	Arg	His	Asn	Gly	Thr 490	Val	Glu	Cys	Lys	Ala 495	Ser
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Asn	Ser	Lys 515	Glu	Gln	Ile	Gln	Pro 520	His	Thr	Leu	Phe	Thr 525	Pro	Leu	Leu
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Leu 545	Ala	Tyr	Lys	Tyr	Leu 550	Gln	Lys	Pro	Met	Tyr 555	Glu	Val	Gln	Trp	Lys 560
Val	Val	Glu	Glu	Ile 565	Asn	Gly	Asn	Asn	Tyr 570	Val	Tyr	Ile	Asp	Pro 575	Thr
Gln	Leu	Pro	Tyr 580	Asp	His	Lys	Trp	Glu 585	Phe	Pro	Arg	Asn	Arg 590	Leu	Ser
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Thr	Ala 610	Tyr	Gly	Leu	Ile	Lys 615	Ser	Asp	Ala	Ala	Met 620	Thr	Val	Ala	Val
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Ser	Glu	Leu	Lys	Val 645	Leu	Ser	Tyr	Leu	Gly 650	Asn	His	Met	Asn	Ile 655	Val
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Glu	Tyr	Cys 675	Cys	Tyr	Gly	Asp	Leu 680	Leu	Asn	Phe	Leu	Arg 685	Arg	Lys	Arg
Asp	Ser	Phe	Ile	Phe	Ser	Lys	Gln	Glu	Glu	Gln	Ala	Asp	Ala	Ala	Leu

705	гÀг	Asn	ьеи	Leu	710	ser	ràs	GIU	ser	715	Cys	Asp	ser	ser	720
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Val	Thr	Pro 755	Ala	Ile	Met	Glu	Asp 760	Asp	Glu	Leu	Ala	Leu 765	Asp	Leu	Glu
Asp	Leu 770	Leu	Ser	Phe	Ser	Tyr 775	Gln	Val	Ala	Lys	Gly 780	Met	Ala	Phe	Leu
Ala 785	Ser	Lys	Asn	Cys	Ile 790	His	Arg	Asp	Leu	Ala 795	Ala	Arg	Asn	Ile	Leu 800
Leu	Thr	His	Gly	Arg 805	Ile	Thr	Lys	Ile	Cys 810	Asp	Phe	Gly	Leu	Ala 815	Arg
Asp	Ile	Arg	Asn 820	Asp	Ser	Asn	Tyr	Val 825	Val	Lys	Gly	Asn	Ala 830	Arg	Leu
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865			Ser		870				-	875		-			880
				885					890					895	
			Met 900					905					910		
		915	Pro				920				.f	925			
	930	-	Ser		-	935		-			940			-	
945	asn	Pro	Glu	asn	950	vaı	vaı	vaı	Asp	955	ser	vaı	Arg	vaı	960

Ser Val Gly Ser Ser Thr Ser Ser Thr Gln Pro Leu Leu Val His Glu 965 970 975

Asp Ala